

Homework 3

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1 Problem : Page 113: 2

The following table gives the elongation e in inches (in./in.) for a given stress S on a steel wire measured in pounds per square inch (lb/in.²). Test the models $e = c_1 S$ by plotting the data. Estimate c_1 graphically.

Table 1:

$S(x10^{-3})$	5	10	20	30	40	50	60	70	80	90	100
$e(x10^5)$	0	19	57	94	134	173	216	256	297	343	390

2 Problem : Page 121: 2.a

For each of the following data sets, formulate the mathematical model that minimizes the largest deviation between the data and the line $y = ax + b$. If a computer is available solve for the estimates of a and b .

Table 2:

x	1	2.3	3.7	4.2	6.1	7.0
y	3.6	3.0	3.2	5.1	5.3	6.8

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